

44 Who's Who?



As you will learn in the next few activities, diseases caused by different microbes are prevented and treated differently. That's why Leeuwenhoek's discovery of microbes and Pasteur's germ theory of disease were essential. Find out more by using more evidence to classify microbes.



How are these microbes classified?



MATERIALS



For each group of four students

- 1 set of 9 Micro-Life Cards
- 1 Student Sheet 44.1, "Dichotomous Key"

PROCEDURE

1. Spread your Micro-Life Cards out on a table. Each card shows a high magnification view of the outside of the microbe and a drawing of a high magnification view of the inside.
2. Examine each card carefully, noting similarities and differences.
3. With your group members, classify the microbes into groups. Work together to agree on a classification system:
 - Listen to and consider the explanations and ideas of other members of your team.
 - If you disagree with other members of your team about how to classify a microbe, explain why you disagree.

4. In your science notebook, list the groups that you created and the common features of each group. Be sure to record which microbes belong to which group.
5. Leave your cards sorted into groups and your notebook open on your work surface. When all teams are finished you will look at what others have done.
6. View the work of other student teams. As you look at their classification systems, observe the similarities and differences between their systems and your own. Discuss your observations with your team members.
7. Use Student Sheet 44.1, "Dichotomous Key," to identify the microbes you have grouped.
8. You will receive 6 Classification Cards from your teacher. Each card represents a group of creatures. Based on the information described on the Classification Cards, place each Micro-Life Card under one of the Classification Card categories. In your science notebook, record any changes you want to make to your original grouping of your Micro-Life Cards.
9. As a class, discuss the classification of the Micro-Life Cards. In your science notebook, record the common features of each major group.

ANALYSIS



1. How could knowing the structure and classification of disease-causing microbes help scientists fight a disease?



2. How did your system of classification compare to the Classification Cards?
3. Look back at the drawing of a generalized animal cell in Activity 42, "A Closer Look." Explain how the animal cell structure, shown in the drawing, is similar to or different from the structure of each of the following groups of microbes:
 - a. protists
 - b. bacteria
 - c. viruses